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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,472	07/24/2003	Matthew R. Libera	STEVENS 3.0-007	1312
27614	7590	01/30/2006	EXAMINER	
MCCARTER & ENGLISH, LLP FOUR GATEWAY CENTER 100 MULBERRY STREET NEWARK, NJ 07102			DICUS, TAMRA	
			ART UNIT	PAPER NUMBER
			1774	

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/626,472

Applicant(s)

LIBERA ET AL.

Examiner

Tamra L. Dicus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 17-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05-09-05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

The election of group I made without traverse is acknowledged.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 14 does not have the proper support in the original specification as filed because the specification does not provide any teaching or discussion on a bioactive molecule reversibly bonded or its usage with Applicant's claimed patterned polymer. The instant specification is absent a teaching of a bioactive molecule or how it is reversibly bonded.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 3-4, and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 1, 3-4, and 13 recites a "superficial pattern" and "having details in the submicron range", however, the Specification is absent a definition explaining what a "superficial" pattern

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is or what “details” are in the submicron range. Further, there is no unit assigned to “the submicron range”. Thus, the claim as written is vague and is not understood what is meant by said recitation.

5. Claim 1 recites in the preamble a “polymer microgel” that comprises a film and substrate, which is not clear how a material like gel comprises a film a substrate. Does applicant intend to claim a film on a substrate with a patterned polymer microgel thereon as in the instant specification?

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 4-6, 7-10, 12, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,828,096 to Boussie et al.

8. Boussie teaches a patterned polymer microgel dissolved in solvent THF (col. 10, lines 12-25, lines 42-62, inherently having a swelling distinguishing property (claim 9)) deposited in regions on a inorganic substrate in the form of a film of plastic or polymer or glass (col. 14, lines 40-53) (instant claims 1, 16). The polymer deposited in the regions are comprised of one (homopolymer) or more polymer molecules or copolymers inherently having the affinity for adsorption of protein because it is the same material and is a cross-linking polymer (col. 11, lines 5-45, instant claims 5-6, 8, 10 and 12).

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Boussie does not teach a superficial pattern, however because the polymer is deposited in a pattern on a surface, as defined by Merriam-Webster OnLine, it is considered superficial.

Boussie does not teach details in a submicron range, however, size is an optimizable feature, as it has been held that the provision of adjustability, where needed, involves only routine skill in the art. *In re Stevens*, 101 USPQ 284.

To claim 2, because Boussie teaches the polymer is deposited in a pattern and of different material (distinguishing property), the substrate has areas not supported by the film (col. 10, lines 40-45, col. 14, lines 1-68).

To claim 7, Boussie teaches using any wide variety of polymers, plastics, and Pyrex, (first and second) polymers (col. 14, lines 45-68) or different materials. Boussie does not teach a multilayer film and that the layers adhere to each other by a bonding mechanism, however it would have been obvious to one having ordinary skill in the art to expect the polymer to adhere in this way because the polymers are the same. Further to repeat coating the film to form a multilayer film is duplication of parts. The mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

9. Claims 10-13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,828,096 to Boussie et al. in view of USPN 5,952,232 to Rothman.

10. Boussie essentially teaches the claimed invention.

11. Boussie teaches polymers is not critically limited to non-biological polymers and lists nucleic acid polymers DNA as an optional polymer (col. 11, lines 30-45). However, Boussie does not teach the inclusion of a protein, pH-sensitive hydrogel, or cell (instant claims 10-13 and 15).

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12. Rothman teaches DNA molecules include proteins, pH sensitive hydrogels and microparticles (pH mircrogel equivalency) included as a composition for a delivery of the DNA into cytoplasm of a cell (Abstract, col. 5, lines 65-68, col. 6, lines 1-68, col. 11, lines 5-34, lines 60-68). The protein is included with the DNA to bind to cells. The combination helps to protect from degradation.

13. It would have been obvious to one having ordinary skill in the art to have modified the polymer of Boussie to include a protein, pH-sensitive hydrogel, or cell because Rothman teaches DNA molecules include proteins, pH sensitive hydrogels and microparticles (pH mircrogel equivalency) included as a composition for a delivery of the DNA into cytoplasm of a cell (Abstract, col. 5, lines 65-68, col. 6, lines 1-68, col. 11, lines 5-35, lines 60-68). The protein is included with the DNA to bind to cells. The combination helps to protect from degradation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is 571-272-1519. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

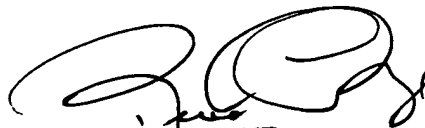
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tamra L. Dicus
Examiner
Art Unit 1774

January 18, 2006



RENA DYE
SUPERVISORY PATENT EXAMINER

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